This document gives pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a **Minor, Industrial** permit. The discharge of once-through, non-contact cooling water results from the production of chilled water for air conditioning supplied to the Pentagon and Federal Office Building 2. This permit action consists of updating the effluent limitations to reflect the current Virginia Water Quality Standards and current agency permit language. The effluent limitations and special conditions contained within this permit will maintain the Water Quality Standards of 9VAC25-260-00 et seq.

1.	Facility Name and Address:	Pentagon Reservation Dept. of Defense 425 Old Jefferson Davis Hwy. Arlington, VA 22202	SIC Code	4961 (Chilled Water and Steam) 9711 (National Security)
	Facility Location:	425 Old Jefferson Davis Highway, Arlington, VA 22202	County:	Arlington
	Facility Contact Name:	Joseph D. Eichenlaub, Environmental Engineer, Federal Facilities Division (FFD)	Telephone Number:	703-614-9583
2.	Permit No.:	VA0032000	Expiration Date of previous	10/2/2010
	Other VPDES Permits associated with this facility:		None	
	Other Permits associated with this facility:		VA70030 (Title V Air); PBR197 (Solid Waste Incinerator); VA2210090021 (RCRA); VAR040103 (MS-4)	
	E2/E3/E4 Status:	N/A		
3.	Owner Name:	Department of Defense		
	Owner Contact/Title:	Bob Cox	Telephone Number:	703-695-8004
4.	Application Complete Date:	9/16/2010		
	Permit Drafted By:	Anna Westernik	Date Drafted:	9/16/2010
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	9/23/2010
	Public Comment Period :	Start Date: 10/15/2010	End Date:	11/15/2010

5. Receiving Waters Information: See **Attachment 1** for the Flow Frequency Determination

Receiving Stream Name :	Roaches Run		
Drainage Area at Outfall 001:	0.53 mi^2	Outfall 001 River Mile:	1A-R0R.46
Drainage Area at Outfall 002:	0.02 mi^2	Outfall 002 River Mile:	1A-R0R.46
Stream Basin:	Potomac River Basin	Subbasin:	Potomac River Subbasin
Section:	6	Stream Class:	II
Special Standards:	b, y	Waterbody ID:	VAN-A12E
7Q10 Low Flow:	Tidal	7Q10 High Flow:	Tidal
1Q10 Low Flow:	Tidal	1Q10 High Flow:	Tidal
Harmonic Mean Flow:	Tidal	30Q5 Flow:	Tidal
303(d) Listed:	No	30Q10 Flow:	Tidal
TMDL Approved:	See Section 26	Date TMDL Approved:	N/A

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

✓	State Water Control Law		EPA Guidelines
✓	Clean Water Act	✓	Water Quality Standards
✓	VPDES Permit Regulation	✓	Other (District of Columbia Water Quality Standards
✓	EPA NPDES Regulation		

7. Licensed Operator Requirements: N/A

8. Reliability Class: Class N/A

9. Permit Characterization:

	Private		Effluent Limited	✓	Possible Interstate Effect
✓	Federal	✓	Water Quality Limited		Compliance Schedule Required
	State	✓	Toxics Monitoring Program		Interim Limits in Permit
	POTW		Pretreatment Program Required		Interim Limits in Other Document
	Municipal	✓	TMDL		

10. Wastewater Sources and Treatment Description:

The Pentagon is the headquarters for the Department of Defense. The Department of Defense operates a heating and refrigeration plant, Pentagon Heating and Refrigeration Plant (HRP) that provides steam for heating and chilled water for air conditioning to the Pentagon and Federal Building 2.

Water is drawn from the Boundary Channel Lagoon (District of Columbia waters) for non-contact cooling water for the chiller condensers and is then discharged without treatment into Roaches Run, a wildlife sanctuary near the Ronald Reagan National Airport. An intake bar screen, a traveling screen, a cooling water sump, condenser water pumps, ten basket screens, and ten chillers are used in this process.

The HRP was constructed approximately 14 years ago. The chillers were made operational in November 1997 and the boilers were made operational approximately seven years ago. However, the chillers were first built and tested in 1996. The chiller units are in operation throughout the year because chilled air is needed to cool computer rooms.

The Boundary Channel Lagoon intake structure consists of a surface boom and a bar screen. A small building rests above the bar screen. The intake (N 38° 47 48.1, W 77° 30 17.5) is checked once per shift by the HRP staff.

Water withdrawn from the lagoon travels through a 72" line by gravity through traveling screens with 3/8" mesh that remove smaller debris and to two sumps that normally operate in parallel. The sump chambers are 44' deep. Ten vertical turbine pumps that discharge at a rate of 11,000 to 12,000 gpm pull the water from the sumps and discharge it through ten strainers with 1/42" mesh located after the pumps. Pump use is normally alternated, but the pumps can operate together if demand requires so. These strainers remove fine particles such as sand and silt. These strainers are backwashed through the piping in the basement and into the outfall at Roaches Run. They are backwashed automatically using pressure differential. The rate of backwash is unknown.

Debris from the intake bar screen and the traveling screen are collected and stored in containers and subsequently disposed of in a sanitary landfill. Suspended solids from backwashing the strainers are blended into the cooling water effluent. Surplus intake is mixed with the condenser cooling water and is discharged into Roaches Run.

A 36" main is located under the floor of the chiller room and leads to the chillers. Each chiller unit consists of a condenser and a cooler. To achieve cooling, water travels through the bottom of the condenser units where heat is exchanged and then it loops through the top of the condenser and is discharged to the piping below the chiller unit. The water then travels through copper tubes within the condenser. It has no contact with the other materials in the cooler units. Mexal 432/0, an anti-corrosion dispersant containing amines is added to the non-contact cooling water to mitigate the copper level in the discharge (see **Attachment 2** -MSDS). Each chiller can be individually sampled in the basement area.

When this permit was reissued in February 2000, the FFD decided to construct a second outfall (Outfall 002). It was decided that Outfall 002 would be the primary outfall and Outfall 001, which is owned by Arlington County, would be used during times of maintenance and emergency and to control outfall temperatures.

The classified materials incinerator ash dumpster drainage and the boiler water sampling line (continuous stream of boiler water) discharge to the Boundary Channel or Pentagon Lagoon (District of Columbia waters); EPA Region III issues permits for these waste streams. Sanitary wastewater from the Pentagon Reservation discharges to the Arlington County Water Pollution Control Facility.

See **Attachment 3** for the NPDES Permit Rating Worksheet.

See **Attachment 4** for a facility schematic/diagram.

TABLE 1 – Outfall Description

Outfall Number	Discharge Sources	Treatment	Max 30-day Flow	Outfall Latitude and Longitude
001	• Non-Contact Cooling Water • Surplus Cooling Water • Basket Strainer Backwash	See Item 10 above	38 MGD	38° 51' 55" N 77° 02' 46" W
002	• Non-Contact Cooling Water • Surplus Cooling Water • Basket Strainer Backwash	See Item 10 above	38 MGD	38° 52' 07" N 77° 02' 36.6" W

See **Attachment 5** for Topographic Map 204D (Alexandria).

12. Discharges, Intakes, Monitoring Stations, Other Items in Vicinity of Discharge (see **Attachment 6**)

13. Material Storage (See **Attachment 7** for a list of materials purchased at the Pentagon Heating Plant.)

All water conditioning chemicals are stored in a Hazard Storage location of the basement of the Main HRP building. This storage location has secondary containment of sloped concrete floors that discharge to the Arlington County sanitary sewer. All tanks are in plastic containment except for the 35 and 55-gallon drums. Thirty 55-gallon containers of oil can be stored in the basement of the chiller plant. Secondary containment consists of spill pallets and sloped concrete floors that discharge to the Arlington County sanitary system.

14. Site Inspection: See **Attachment 8** – Summary from 8/13/2009 inspection conducted by Wilamenia Harback.

15. Receiving Stream Water Quality and Water Quality Standards:

Roaches Run is a tidal inlet of the Potomac River. It is located at the north end of Ronald Reagan National Airport. The stream bed was altered during construction of the George Washington Parkway in the late 1920's/early 1930's and the portion of Roaches Run west of the parkway was formed into a lagoon. The lagoon section of Roaches Run is referred to as a waterfowl sanctuary on USGS topographic maps. The Environmental Assessment of the Pentagon Reservation Master Plan states in part, "The area began as a waterfowl sanctuary, and was initially stocked with a variety of waterfowl species and wetland plantings. However, proximity of the sanctuary to Washington National Airport was a safety hazard to airline flight traffic and maintenance of the sanctuary was discontinued. The area is not considered a unique habitat to any wildlife species." "The waterfowl sanctuary is a riverine tidal open-water wetland, with a pallustrine forested and pallustrine emergent wetland fringe. The total area of the Roaches Run open water, pallustrine forested, pallustrine emergent wetlands is approximately 66 acres."

a) Ambient Water Quality Data

There are no DEQ monitoring stations in Roaches Run and the Potomac River segment into which Roaches Run discharges (Key Bridge to Hains Point) is District of Columbia waters. This segment, the Middle Potomac River, is listed as not supporting due to exceedances of fecal coliform bacteria criterion, fish consumption use due to PCBs, and aquatic life use due to pH. The Pentagon Reservation is not likely to discharge bacteria and PCBs. pH limits in this permit mirror the District of Columbia Water Quality Standards and hence, protect the water quality standards.

See **Attachment 9**, Planning Statement dated June 7, 2010.

b) Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Roaches Run, is located within Section 6 of the Potomac River Basin and is a Class II water.

Class II tidal waters in the Chesapeake Bay and it tidal tributaries must meet dissolved oxygen concentrations as specified in 9VAC25-260-185 and maintain a pH of 6.0-9.0 standard units as specified in 9VAC25-260-50. In the Northern Virginia area, Class II waters must meet the Migratory Fish Spawning and Nursery Designated Use from February 1 through May 31. For the remainder of the year, these tidal waters must meet the Open Water use. The applicable dissolved oxygen concentrations are presented **Attachment 10**.

Attachment 11 details other water quality criteria applicable to the receiving stream. Since ammonia and bacteria are not pollutants of concern in this discharge, criteria development for these pollutants is not necessary.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream's hardness (expressed as mg/L calcium carbonate). Since the 7Q10 of the receiving stream is considered to be zero due to the tidal influence in the area and no ambient data is available; the effluent data for hardness can be used to determine the metals criteria. The average hardness of the effluent calculated using six samples taken in June and August 2010 is 110 mg/L. The hardness-dependent metals criteria shown in **Attachment 11** are based on this value.

c) Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes, and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Roaches Run, is located within Section 6 of the Potomac River Basin. This section has been designated with the special standards of b and y.

Special Standard "b" (Potomac Embayment Standards) established effluent standards for all sewage plants discharging into Potomac River embayments and for expansions of existing plants discharging into non-tidal tributaries of these embayments. 9VAC25-415, Policy for the Potomac Embayments, controls point source discharges of conventional pollutants into the Virginia embayment waters of the Potomac River, and

their tributaries, from the fall line at Chain Bridge in Arlington County to the Route 301 Bridge in King George County. The regulation sets effluent limits for BOD_5, total suspended solids, phosphorus, and ammonia, to protect the water quality of these high profile waterbodies. The Potomac Embayment Standards are not applied to this discharge since it does not contain the pollutants of concern in appreciable amounts.

Special Standard "y" is the chronic ammonia criterion for tidal freshwater Potomac River and tributaries that enter the tidal freshwater Potomac River from Cockpit Point (below Occoquan Bay) to the fall line at Chain Bridge. During November 1 through February 14 of each year the thirty-day average concentration of total ammonia nitrogen (in mg N/L) shall not exceed, more than once every three years on the average the following chronic ammonia criterion:

$$\left(\frac{0.0577}{1 + 10^{7.688\text{-pH}}} + \frac{2.487}{1 + 10^{\text{pH-7.688}}} \right) \times 1.45(10^{0.028(25\text{-MAX})})$$

MAX = temperature in °C or 7, whichever is greater.

The default design flow for calculating steady state waste load allocations for this chronic ammonia criterion is the 30Q10, unless statistically valid methods are employed that demonstrate compliance with the duration and return frequency of this water quality criterion. This standard is not applied to this discharge since it does not contain ammonia in appreciable amounts.

d) Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on July 26, 2010 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The presence of bald eagles was identified within a 2 mile radius of both outfalls. The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and therefore, protect this species.

The stream that the facility discharges to is within a reach identified as having an Anadromous Fish Use. It is staff's best professional judgment that the proposed limits are protective of this use.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

Staff has determined that Roaches Run is a Tier 1 waterbody based on the following:

- The waterbody is not actively managed as a waterfowl sanctuary.
- The waterbody is an estuary with tidal influences from the Potomac River. The Middle Potomac River, downstream of the discharge, (Segment 2) is listed in the District of Columbia's 2008 Integrated Report as not supporting the following uses: 1) The primary contact recreation use is not supporting due to exceedances of the fecal coliform bacteria criteria; 2) The fish consumption use is not supporting due to a public health advisory, urging the non-consumption of catfish, carp, and eel, and a limited consumption of other fish caught in all District of Columbia waters due to PCBs; and 3) The aquatic life use is not supporting due to exceedances of the pH criterion.
- The outfall is located in a highly urbanized area that receives storm water discharge from multiple sources.

17. Effluent Screening, Wasteload Allocation, and Effluent Limitation Development :

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points is equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

a) Effluent Screening:

Effluent data obtained from Attachment A sampling conducted in April and May 2010, Total Recoverable Copper Discharge Monitoring Report (DMR) data for the November 2005 through March 2010 period, and dioxin (2,37,8-TCDD) DMR data for the December 2005 through June 2010 period has been reviewed and determined to be suitable for evaluation. Arsenic, copper, lead, nickel, zinc and Beta Particle and Photon Activity from the April/May sampling event were found to be present above the quantifiable level.

Staff derived wasteload allocations where parameters are reasonably expected to be present in an effluent (e.g., total residual chlorine where chlorine is used as a means of disinfection) and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. **Attachment 11** details the Virginia criteria for those pollutants having acute and chronic water quality criteria. The lead and nickel criteria for the District of Columbia were found to differ from the Virginia criteria (see Table 2 below).

TABLE 2 – Lead and Nickel Criteria

Parameter	VA Acute Criterion	D.C. Acute Criterion	VA Chronic Criterion	D.C. Chronic Criterion
Lead	130	70	15	2.8
Nickel	200	507	22	54

Acute WLA - DEQ-Guidance Memorandum 00-2011 states that for surface discharges into tidal estuaries or estuarine embayments, the acute wasteload allocation (WLAa) should be set at 2 times the acute criteria because initial mixing in these circumstances is limited and lethality in the allocated impact zone must be prevented. The 2X factor is derived from the fact that the acute standard (or Criteria Maximum Concentration - CMC) is defined as one half of the final acute value (FAV) for a specific toxic pollutant. The term final acute value is defined as an estimate of the concentration of the toxicant corresponding to a cumulative probability of 0.05 for the acute toxicity values for all genera for which acceptable acute test have been conducted with the toxicant. Therefore, if the acute value is one half the FAV, then 2 times the acute standard should equal the FAV or equal an acceptable value for preventing lethality.

Chronic WLA - DEQ-Guidance Memorandum 00-2011 states that for surface discharges into tidal estuaries, estuarine embayments, or the open ocean, the chronic wasteload allocation (WLAc) should be based upon site specific data on waste dispersion or dilution when available and appropriate. Where wastewater dispersion/dilution data are not available, a dilution ration of 50:1 may be used. While staff acknowledges that some dilution is occurring in the river, it is not appropriate to use the 50:1 dilution ratio because the Pentagon Reservation is discharging a large volume of wastewater (approximately 38 MGD) and there are other municipal discharges in the area that greatly influence the mixing zone. Therefore, large tidal influences may not be realized.

Recognizing that 50:1 is too high, and 1:1 is most likely too stringent (end of pipe) because some mixing is occurring, staff has chosen to use a ratio of 2:1 until more evidence becomes available that demonstrates a more appropriate dilution ratio.

Staff derived wasteload allocations where parameters are reasonably expected to be present in an effluent (e.g., total residual chlorine where chlorine is used as a means of disinfection) and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. With regard to the discharge from Outfalls 002, DMR and Attachment A data indicate that the following parameters with acute and chronic criteria are present in the discharge: copper, lead, nickel, and zinc. The most stringent acute and chronic WLAs for these parameters based upon the calculation of 2X the acute and chronic criteria are shown in Table 3 below:

TABLE 3 – Metals WLAs		
Parameter	**Acute WLAs**	**Chronic WLAs**
Copper	30	19.4
Lead	140	5.6
Nickel	400	44
Zinc	260	260

The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are based on the most limiting WLA, the required sampling frequency, and statistical characteristics of the effluent data. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation.

c) Effluent Limitations Toxic Pollutants, Outfall 002

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1) Metals:

District of Columbia Water Quality Standards were reviewed to determine if there were differences between the criteria. It was found that the District of Columbia criteria for lead and nickel differed from the Virginia Water Quality Criteria. The District of Columbia Water Quality criteria for lead was used to calculate WLAs and hence limits since they are more stringent than Virginia Water Quality Criteria (See **Attachment 12** derivation of limits). Although lead was detected during a sampling event in March 2010, three samples for lead taken in August 2010 show lead to be nondetect. A need for metals limits was not shown. However, in accordance with the Antibacksliding provision of the Clean Water Act, the current permit limit of 34 µg/L for Total Recoverable Copper shall be retained

The Commonwealth of Virginia and District of Columbia acute and chronic criteria for arsenic are 340 µg/L and 150 µg/L. The level of arsenic found in the March 2010 sampling event (0.6 µg/L) was slightly above the quantification limit of 0.5 µg/L and well below these criteria. Therefore, there shall be no monitoring for arsenic in this permit.

2) Dioxin: Dioxin was not detected in the discharge during this permit cycle. However, since dioxin has been detected several times in the discharge in the past, monitoring shall continue. The monitoring frequency shall be reduced from quarterly to annual.

3) Radionuclides: The Beta Particle and Photon Activity found in the April/May sampling event was reported as 4.9 pCi/L. Three subsequent sampling events for Beta Particle and Photon Activity conducted in July 2010 were reported as 1.32, 0.686, and 2.06 pCi/L. The average of all four samples is 2.2 pi Ci/L. The concentration of Beta Particle and Photon Activity in pCi/L is so low that there is no reasonable potential to exceed the Human Health Water Quality Standards of 4 m rem/yr.

d) Effluent Limitations and Monitoring – Conventional and Non-Conventional Pollutants

No changes to temperature and pH limitations are proposed. Since temperature is a major pollutant of concern in this discharge, the temperature criterion for Class II nontidal water, a maximum of 32°C has been applied. In addition, the criteria limiting increase in the natural rise in temperature to 3°C has been applied in this permit. The permittee shall adhere to an approved Instream Monitoring Plan.

e) Effluent Annual Average Monitoring – Nutrients

The anticorrosion agent has been changed from Chemstar 550 to Mexal 432/0. The manufacturer's representative states that the product contains approximately 2% nitrogen and will discharge less than 140 pounds of nitrogen per year at the current flow rates. Monitoring for Total Nitrogen shall continue. If the load of Total Nitrogen discharged per year exceeds 2,300 pounds (equivalent to a sewage treatment plant with a design flow of 40,000 gpd), the Pentagon must apply for a registration statement per 9VAC25-820 *General Virginia Pollutant Discharge Elimination System (VPDES) Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia.*

e) Effluent Limitations and Monitoring Summary.

The effluent limitations are presented in the table found in Section 19 of this fact sheet. Limits were established for pH, temperature, and Total Recoverable Copper. Monitoring is required for dioxin, nitrate/nitrite as nitrogen, TKN, and total nitrogen. The limits for pH are based on the District of Columbia Water Quality Standards. The limits for Total Recoverable Copper are based on the District of Columbia and the Virginia Water Quality Standards (the criteria for this parameter in both jurisdictions is the same), and the limit for temperature is based on best professional judgment.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

19. Effluent Limitations/Monitoring Requirements: Industrial Process Water Discharge (Cooling Water) Outfalls 001/002 (see Permit Part 1.D.6)
Maximum 30-Day Flow of this Industrial Facility is 38 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	N/A	NL	N/A	N/A	NL	1/M	EST
pH (SU)	1	N/A	N/A	6.0	8.5	1/D	Grab
Temperature (C)[a]	2	N/A	N/A	N/A	32°	2/D	IS
Copper, Total Recoverable (µg/L)	1, 3	N/A	N/A	N/A	34	1/M	Grab
Nitrate+Nitrite, as N (mg/L)	2	NL	N/A	N/A	N/A	1/M	24H-C
TKN (mg/L)	2	NL	N/A	N/A	N/A	1/M	24H-C
Total Nitrogen[b] (mg/L)	2	NL	N/A	N/A	N/A	1/M	Calculated
Total Nitrogen – Lbs. Year to Date	2	N/A	N/A	N/A	NL	1/M	Calculated
Total Nitrogen –Lbs./Calendar Year	2	N/A	N/A	N/A	NL	1/Y	Calculated
Dioxin (ppq)	2	N/A	N/A	N/A	NL	1/Y	Grab
Chronic 3-Brood Static Renewal *(C. dubia)* (TU_c)	N/A	N/A	N/A	N/A	NL	See Part I.C of Permit	24H-C
Chronic 7-Day Static Renewal *(P. promelas)* (TU_c)	N/A	N/A	N/A	N/A	NL	See Part I.C of Permit	24H-C

The basis for the limitations codes are:
1. Washington D.C Water Quality Standards
2. Best Professional Judgment
3. Virginia Water Quality Standards

MGD = Million gallons per day.
N/A = Not applicable.
NL = No limit; monitor and report.
EST = Estimate
SU = Standard units.
C = Celcius.
IS = Immersion stabilization.
TU_c = Toxic Units (Chronic)

1/M = Once per month.
1/D = Once every day.
2/D = Twice every day.
1/Y = Once per year.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.
24H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the Monitored 24-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of twenty-four (24) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of twenty-four (24) grab samples obtained at hourly or smaller intervals may be collected Where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

a. The maximum temperature of the discharge from Outfalls 001 and 002 shall not exceed 32° C. The rise in natural temperature shall not exceed 3° C (9 VAC 25-260-60). All monitoring shall be conducted in accordance with the approved Instream Monitoring Plan.
b. Total Nitrogen = Sum of TKN plus Nitrate and Nitrite. Nitrogen loading shall be calculated as follows: Maximum 30-day total nitrogen (mg/L) x 8.345 x maximum 30-day flow average.

20. Other Permit Requirements:

a) Part I.B. of the permit contains quantification levels and compliance reporting instructions. 9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

b) Permit Section Part I.C., details the requirements for Toxics Management Program. The VPDES Permit Regulation at 9VAC25-31-210 requires monitoring and 9VAC25-31-220.I requires limitations in the permit to provide for and assure compliance with all applicable requirements of the State Water Control Law and the Clean Water Act. A TMP is imposed for those determined by the Board to have the potential for toxicity or in-stream impact based on an evaluation of manufacturing processes, indirect discharges, treatment processes, effluent or receiving stream data or other relevant information.

The Pentagon is an industrial discharger with an effluent that may be potentially toxic. The facility completed the initial chronic toxicity testing and the effluent passed the decision criteria. The facility was then required to conduct annual monitoring for the duration of the permit's term. Annual TMP monitoring will be maintained during this permit term. See **Attachment 13** for the most recent review of the bioassays for Outfall 002 (no discharge from Outfall 001 occurred during the permit term).

Since the discharge is considered continuous, chronic testing was required during the last permit term. It is proposed that chronic testing be continued using *C. dubia* and *P. promelas* as the test species.

21. Other Special Conditions:

a) O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; VPDES Permit Regulation, 9VAC25-31-190.E. By February 10, 2011, the permittee shall submit a complete, approval Operations and Maintenance (O&M) Manual to the Department of Environmental Quality, Northern Regional Office (DEQ-NRO). Future changes to the facility must be addressed by the submittal of a revised O&M Manual within 90 days of these changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

b) Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
   (1) One hundred micrograms per liter;
   (2) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;
   (3) Five times the maximum concentration value reported for that pollutant in the permit application; or
   (4) The level established by the Board.

b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
   (1) Five hundred micrograms per liter;
   (2) One milligram per liter for antimony;
   (3) Ten times the maximum concentration value reported for that pollutant in the permit application; or
   (4) The level established by the Board.

c) Materials Handling/Storage. 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

d) Discharges From Outfall 001. Outfall 001 is owned by Arlington County and is used for storm water discharge under the Arlington County MS-4 permit. The permittee shall only discharge from Outfall 001 during periods of maintenance and emergencies. It is anticipated that these events will only occur once per year but may occur more frequently. The permittee shall notify DEQ-NRO and Arlington County at least seven days in advance of scheduled maintenance, and within 24 hours of emergency events. The contact for Arlington County is the Department of Environmental Services—Environmental Planning Office.

Discharges during these events shall be monitored and limited for those parameters in Part I.A. Each event shall be monitored at least once. For events lasting more than three days, the monitoring frequency shall be once per three days.

e) Non-Contact Cooling Water Additives. The permittee shall notify DEQ-NRO in writing at least 30 days before changing chemical additives in the non-contact cooling water. Should the use of chemical additives significantly alter the characteristics of the non-contact cooling water discharge, this permit may be modified or alternatively, revoked and reissued to include appropriate limitations or conditions.

f) Instream Monitoring Plan. A revised Instream Monitoring Plan that explains monitoring procedures in the Boundary Channel Lagoon and Roaches Run (monitoring devices, methodology, reporting frequency) using the information obtained from the Thermal Study of Outfall 002 dated October 5, 2006 shall be submitted to DEQ-NRO for approval by February 10, 2011.

g) Nutrient Reopener. The annual loading of Total Nitrogen per year from this facility is estimated to be no greater than 140 pounds per year using Mexel 432/0. If the Total Nitrogen loading exceeds 2,300 pounds/year, the facility shall apply for a registration statement per 9VAC25-820 *General Virginia Pollutant Discharge Elimination System (VPDES) Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia.*. This individual permit shall be reopened at the same time to incorporate an annual concentration limit for Total Nitrogen.

h) TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it in compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II:

Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a) Special Conditions:
   1) The Dioxin Source Study Special Condition has been removed.
   2) The Water Quality Criteria Special Condition has been removed.
   3) A Nutrient Reopener Special Condition has been added.

b) Monitoring and Effluent Limitations:
   1) The monitoring frequency for Dioxin has been changed from once per quarter to once per year.
   2) Total Nitrogen year-to-date and calendar year monitoring requirements have been added.
   3) The industrial rating score has been changed from 74.5 to 66.

24. Variances/Alternate Limits or Conditions: None

25. Public Notice Information:

First Public Notice Date: 10/14/2010 Second Public Notice Date: 10/28/2010

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected, and copied by contacting Anna Westernik at the DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193 (Telephone No. (703) 583-3837; e-mail anna.westernik@deq.virginia.gov). See **Attachment 14** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. 303 (d) Listed Stream Segments and Total Max. Daily Loads (TMDL):

The receiving stream, Roaches Run, is not on the 303(d) list. However, there are downstream impairments as described below:

The Middle Potomac River (segment 2) is listed in the District of Columbia's 2008 Integrated Report as not supporting several uses:

1. The primary contract recreation use is not supporting due to exceedances of the fecal coliform bacteria criterion.
2. The fish consumption use is not supporting due to a public health advisory, urging the non-consumption of catfish, carp and eel, and a limited consumption of other fish caught in all District of Columbia waters due to PCBs.
3. The aquatic life use is not supporting due to exceedances of the pH criterion.

The status of TMDLs for these impairments are as follows:

1. Recreation Use: Bacteria -- TMDL established December 2004.
2. Fish Consumption Use: Organics (PCBs) – TMDL established October 2007.
3. Aquatic Life Use: pH – TMDL expected establishment date: May 2011.

Roaches Run was not specifically included in the completed TMDLs. This facility is a candidate for low-level PCB monitoring based on its SIC Code. However, staff has concluded that this facility is not expected to discharge PCBs as water drawn for use as non-contact cooling water from the Boundary Channel Lagoon and is then discharged into Roaches Run (see **Attachment 9**, Planning Statement).

27. Additional Comments:

Previous Board Action(s): There is an open enforcement action with the Pentagon at this time. The Letter of Agreement was not signed by the permittee.

Staff Comments: None

Public Comment: Comments received from Mr. B.H. Custer in October and November 2010 were reviewed and addressed in a letter from DEQ dated December 9, 2010. On the basis of this analysis of the comments, it was determined that, the statutory threshold for convening a public hearing for the proposed permit reissuance had not been met (**Attachment 15**).

EPA Checklist: The checklist can be found in **Attachment 16**.

Attachments to Fact Sheet for VPDES Permit No. VA0032000

Attachment 1	Flow Frequency Determination
Attachment 2	MSDS Sheet for Mexal 432/0
Attachment 3	NPDES Permit Rating Worksheet
Attachment 4	Facility Schematic/Diagram
Attachment 5	Topographic Map 204D (Alexandria)
Attachment 6	Discharges in Waterbodies VAN-A12E and VAN-A12R
Attachment 7	List of Materials Stored
Attachment 8	Summary from DEQ August 13, 2010 Inspection
Attachment 9	Planning Statement Dated June 7, 2010
Attachment 10	Applicable Dissolved Oxygen Concentrations
Attachment 11	Water Quality Criteria
Attachment 12	Derivation of Limits
Attachment 13	Review of Bioassays
Attachment 14	Copy of the Public Notice Document
Attachment 15	DEQ Response to B.H. Custer
Attachment 16	EPA Permit Checklist

Attachment 1

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Water Quality Assessments
629 East Main Street P.O. Box 10009 Richmond, Virginia 23219

SUBJECT: Flow Frequency Determination
Pentagon Reservation, D.O.D. – #VA0032000

TO: Anna Tuthill, NRO

FROM: Paul E. Herman, P.E., WQAP

DATE: May 20, 1999

COPIES: Ron Gregory, Charles Martin, File

The Pentagon Reservation discharges to the Roaches Run Waterfowl Sanctuary in Arlington, Virginia. Flow frequencies are required at this site for use by the permit writer in developing the VPDES permit.

The flow frequencies for the discharge receiving stream were determined by inspection of the USGS Alexandria Quadrangle topographic map. The map depicts the Waterfowl Sanctuary as a tidal basin. There are no free flowing freshwater tributaries to the Waterfowl Sanctuary. The flow frequencies for tidal water bodies are not determinable. Dilution ratios should be used to assess the impact the discharge from the subject facility has on the receiving waters.

If you have any questions concerning this analysis, please let me know.

MEXEL

Safety Data Sheet

1 – Identification of the Preparation and of the Company

Identification of the preparation:

Product name: **Mexel® 432/0**

Use of the preparation: Anticorrosion dispersant, for industrial waters.
Usual dosage: 5 to 7 ppm 15 to 60 min. / day.*

Compagny identification:

Manufacturer: MEXEL® S.A.
Address: Route de Compiègne
F-60410 Verberie – France.
Telephone number: 33 (0)3 44 38 39 40.
Fax number: 33 (0)3 44 38 39 49.

Emergency telephone number: CHEMTREC 800-424-9300 (company code - J954)

2 – Composition / Information on Ingredients

Preparation:

Chemical nature: Aqueous emulsion of aliphatic amines.

Hazardous ingredients:

Substance	CAS N°	EC N°	EC classification	% w/w
Aliphatic amine 1			C,N ; R22-35-50	10-15 %
Aliphatic amine 2			C,N ; R22-35-50	< 2 %
Aliphatic amine 3			Xn,,N ; R22-38-41-50/53	< 5 %
2-amino-2-méthylpropanol	124-68-5	204-709-8	Xi ; R36/38-52/53	< 5 %

Complementary data: Dry extract approximately 15 %.
Mexel® is a registered trademark.

3 – Hazards Identification

Classification of the preparation: According to criteria's of appendix VI of the modified 67/548/EEC directive, this product is classified as:
IRRITANT.
DANGEROUS FOR THE ENVIRONMENT

Principal hazards:

Harmful effects on health: Irritant to eyes. Risk of serious damage to eyes.
Taking into account the physical and chemical properties of the product, harmful effects are possible by contact of the liquid with the skin and/or by ingestion.

Effects on the environment: Very toxic to aquatic organisms.

Physical and chemical hazard: No particular hazard of fire or explosion.

4 – First Aid Measures

Inhalation: Not likely occur. Remove the subject from the contaminated area and supply fresh air.

Skin contact: Immediately remove contaminated clothing and shoes.
Rinse immediately and abundantly with water for at least 15 minutes.
In case of important contact: consult a doctor if required.

Eye contact: Immediately flush eyes with large amounts of runnig water for at least 15 minutes, holding eyelids open.

In all the cases, consult an ophthalmologist, even in the absence of apparent damage.

Ingestion: Do not induce vomiting.
Seek medical advice immediately and show this container or label.

5 – Fire-Fighting Measures

Extinguishing media:

Suitable: Foam, Dry chemical, Carbon dioxide (CO2).

Unsuitable: None, to our knowledge. In case of fire in the vicinity, use the adapted extinguishing media.

Special exposure hazard in fire: In the event of discharge, the product can cause extremely slipping conditions.

Required special equipment for firefighters:
Self contained breathing apparatus.
For more information, refer to section 8: " Exposure controls - Personal protection ".

Special procedures: Do not breathe fumes. Evacuate the personnel away from fumes into a well ventilated area.
Use water spray to cool fire-exposed containers.

Hazardous decomposition products: Possible formation of carbon monoxide, nitrogen oxides and dangerous organic compounds.

6 – Accidental Release Measures

Personal precautions: Avoid contact with skin and eyes.
Do not breath vapors.
Wear appropriate protective clothing, gloves and chemical safety goggles.
For more information, refer to section 8: " Exposure controls - Personal protection "

Environmental precautions: Do not flush to sewer and rivers Product dangerous for the environment).
Stop the leak. Place damaged packing (leak on top) to stop the flow.
Recover the product as soon as possible.In case of important spillage, embank to contain the spilled liquid.

Methods for cleaning:

Recovery: Recover the maximum of the product.
Pump the product in a salvage container suitably labeled and equiped with a closing.
Then transport the salvage containers in a reserved place, for later recycling or elimination.

Neutralization: Absorb the nonrecoverable liquid onto an inert medium e.g. sawdust, sand, gravel sand, earth or diatomacious earth.

Cleaning/decontamination: Wash the nonrecoverable remainder with plenty of water.

Disposal: Do not empty into drains.
For waste disposal, refer to section 13: " Disposal considerations ".

MEXEL

Safety Data Sheet

7 – Handling and Storage

Handling

Technical measures: Use only materials resistant to alkalis and caustics.
Provide eyewash stations and safety showers in the vicinity.

Personal protection: Wear protective clothing, impermeable gloves and eye/face protective equipment (for exemple a visor).

Precautions to be taken: Avoid any direct contact with the product.
Avoid environmental contamination.
Work in a well-ventilated area
When using do not eat, drink or smoke.

Other cautions: Handle in accordance with the general rules of industrial safety.
Use as directed in instructions.
Handle and open the container with care.
Avoid any spillage onto the floor.
Do not mix with incompatible materials (see list in section 10).

Storage

Technical measures: Make all necessary arrangements to avoid release into sewers and rivers, in case of rupture of the containers or the systems of transfer.
Storage and application surface areas must be impermeable and, if possible, constructed with an appropriate retention wall.

Storage conditions:

Recommended: Store the product at a temperature below 60°C and protected from freezing.

Incompatible matters: See detailed list of the incompatible matters, in section 10 : "Stability - reactivity".

Packing conditions : Packing equiped with a closure.
Drums, Polyethlene container with metal framework or standard stainless steel cistern-container.

Packing materials :

Recommended : Standard stainless steel 304 or 316, ordinary steel.

Not recommended : Aluminium, Copper, Zinc and there alloys.
Materials not resistant to strong bases.
Certain plastics.
Elastomers.

8 – Exposure Controls / Personal Protection

Exposure limit values: No specific limit of occupational exposure was established.

Exposure controls:

Technical measures: Safety shower.
Eyewash fountain.
Local aspiration in the event of mist, natural ventilation is sufficient in the absence of mist.

Occupational exposure controls

Respiratory protection: If ventilation is adequate, a breathing apparatus may not be required.
In case of vapour realese, use approved respiratory protection equipment.

Hand protection: Use protective gloves of PVC.

Eye protection: Chemical goggles or faceshield.

Skin protection: Use suitable protective clothing as protection against splashing or contamination, PVC boots.

Environmental exposure controls:	Do not flush to sewer and rivers.
Hygiene practice:	When using do not eat, drink or smoke. Do not allow the product to dry on the skin. Wash hands thoroughly after handling. Separate work clothing from street clothing, wash immediately with plenty of water any soiled clothing.

9 – Physical and Chemical Properties

Appearance:	
Physical state :	Thick and viscous liquid at 20°C.
Color:	Pale yellow to off-white.
Odour:	Amino.
pH:	11.5.
Temperature characteristics:	
Freezing point:	≈ -2°C.
Boiling point:	100°C.
Flashpoint:	> 100°C (NFT 60-103).
Other data:	
Danger of explosion:	Product does not present an explosion hazard.
Oxidizing properties:	Not oxidizing according to EEC criteria.
Density:	≈ 985 kg/m^3 en dilution aqueuse à 50% en poids, à 20°C. ≈ 984 kg/m^3 en dilution aqueuse à 50% en poids, à 25°C.
Solubility in water:	Dispersible.
Solubility in organic solvents:	Soluble in isopropanol, insoluble in chloroform.

10 – Stability and Reactivity

Stability:	Stable under normal temperatures, pressures and normal use conditions.
Materials to avoid:	Strong acids, powerful oxidants, halogenous compounds and water incompatible matters.
Hazardous decomposition products:	Thermal decomposition produces COx and NOx.
Hazardous reactions:	No hazardous reaction is known under the normal operating conditions. Refer to the technical note.

11 – Toxicological Information

Acute toxicity:	
Cutaneous:	LD50 cutaneous (Rat) : > 2 000 mg/kg. (pure product, not published).
Ingestion:	LD50 oral (Rat): > 2 000 mg/kg. (pure product, not published).
Health effects:	
Cutaneous	Not irritant (Rat, pure product). Repeated or prolonged contact might cause a slight irritation of the skin (bibliographical data). Can cause an irritation of the skin of the sensitive people. Slightly irritant (rabbit).
Eye:	Severely irritating to eyes. Risk of serious damage to eyes (not published).
Mucous membranes:	May cause a perforation of the esophagus and digestive tract.

Other information:

Mutagen effects: Not mutagen in the Ames's test with and without metabolic activation.
Not mutagen in the human lymphocytes test with and without metabolic activation.

Oestrogénomimetic effects : Not oestrogénomimetic *in vitro* human cell line for concentrations between 0,1 and 1 mgL^{-1}.

12 – Ecological Information

Mobility: Not very soluble. Forms a film by adsorption on particles or suspended matters.

Target destination of the product : Ultimate target destination of the product : Soil and sediments.

Degradability:

Primary aerobic biodegradation : 19 to 98 % after 11 days according to the stock used.

Ecotoxicity:

Effects on aquatic organisms after continuous exposures:

Very toxic totested aquatic organisms.
EC50 (*Daphnia magna*) / 48 h : 0,554 mg/l.
EC50 (*Photobacterium phosphoreum*) / 15 min. : 4,9 mg/l.
LC50 (Fish : *Brachydanio rerio*) / 24 h : 1,3 mg/l.
LC50 (Fish : *Pleuronectes platessa*) / 96 h : 0,83 mg/l.
LC50 (Fish : *Oncorhynchus mykiss*) / 96 h : 0,36 mg/l.
NOEC (Fish : *Cyprinus carpio*) / 12 jours : 0,25-0,8 mg/l.
NOEC (Fish : *Brachionus calyciflorus*) / 48 h : 0,48 mg/kg.
NOEC (*Pseudokirchneriella subcapitata,* ex: *Selenastrum capricornutum*) / 72 h : 125 µg/l.
NOEC (*Daphnia magna*) / 21 days : ≥ 0,2 mg/l.

Effects on aquatic organisms after discontinuous exposures :

EC50 (*Daphnia magna*) / 5 min./24h for 96h : 27,6-31,8 mg/l.
EC50 (*Daphnia magna*) / 20 min./24h for 96h : 5,5-7,2 mg/l.
EC50 (*Daphnia magna*) / 80 min./24h for 96h : 2,6-3,3 mg/l.
LC50 (*Dicentrarchus labrax)* / 25 min./24h for 504h: > 12 mg/l.

Other harmful effects:

Effects on waste water treatment installations : Chemical oxygen demand (COD): 460 g of O2 / kg.
Activated sludge respiration inhibition: EC50 / 30 min.: 89 mg/l.

13 – Disposal Considerations

Waste disposal:

Prohibitions : Do not discharge in the environment.
Avoid or minimize the waste formation.
Do not reject to sewers or public waters.

Disposal : Incinerate in authorized installation.

Soiled packing:

Cleaning : Not consigned containers.
Do not require cleaning before disposal.

Disposal: Incinerate in an authorized installation.

Notice
The user should be aware of the possible existence of national, provincial, municipal or local regulations that may affect waste disposal procedures.

14 – Transport Information

International regulation:

	UN	Label	Packing	class	Hazard	
Road/Rail (RID/ADR):	2735	8	III	8	80	CC : C7
Maritime (IMDG):	2735	8	III	8		EmS : 8-05
Air freight (OACI /IATA):	2735	8	III	8		

Proper Shipping Name : 2735 POLYAMINES, LIQUID, CORROSIVE, NOS
Containing Alkyl propylenediamine.
IATA passenger : quantity package < 5L instruction : 818
IATA cargo : quantity package < 60L instruction : 820.

Note
The regulations cited above are those in force as of the date of this writing. Due to the continuous evolution of regulations governing transport of hazardous materials, users are advised to obtain updated information from their supplier if the SDS in their possession is more than 12 months old.

15 – Regulatory Information

Community Regulations:

EEC Labelling: Hazardous preparation, obligatory labelling (Autoclassification) :
Concerned.

Identification of the hazardous product: Aliphatic amines.

Symbols and indications of hazard: Irritant (Xi).
Dangerous for the environment (N).

R-phrases:
R 41 : Risk of serious damage to eyes.
R 50 : Very toxic to aquatic organisms.

S-phrases:
S 26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 39 : Wear eye/face protection.
S 24 : Avoid contact with skin.
S 61 : Avoid release to the environment. Refer to special instructions / Safety data sheets.

National Regulations:

France:

Code de la sécurité sociale: Occupational diseases : concerned.
Table n°49 and 49 bis of the occupational diseases.
The presence of aliphatic amines leads to a special medical supervision according to the frensh "arrêté du 11/07/77".

MEXEL

Safety Data Sheet

Recording numbers:

European Inventories (EINECS, ELINCS): All the components of this preparation are registered in the EINECS or ELINCS inventories or in the NLP list.

Others International Inventories: All the components of this preparation are registered in the TSCA (US), AICS (Australia), or ECL (Korea) inventories.
None of the components of this preparation are listed as carcinogen by IARC, NTPC or OSHA inventories.

Note
The legal information cited this section (heading) reflects only the principal regulations specifically applicable to the subject of these SDS. The basic Community texts citied are the subjects of updates and are transcribed in national law.
Users are encouraged to refer to all applicable measures or provisions, international, national and local.
Users should be aware of the possible existence of other provisions supplementing these regulations.

16 – Other Information

Relevant R phrases:

R22: Harmfull if swallowed.
R35: Causes severe burns.
R38: Irritating to skin.
R36/38: Irritating to eyes and skin.
R50: Very toxic to aquatic organisms.
R50/53: Very toxic to aquatic organisms, may cause long-term adverses effects in the aquatic environment.
R52/53: Harmful to aquatic organisms, may cause long-term adverses effects in the aquatic environment.

Update: This SDS was updated (see date in top of page).
The modification since the last version are indicated with (*).

Author: SDS worked out by Mexel® SA, according to standard NF ISO 11014-1 and the amended decree of 5 January 1993 transcribing in French regulation the Directive 91/155/EEC as last amended by Directive 2001/58/EC.

Advice to users
This SDS supplements the technical notice but does not replace it. The information which it contains is based on the best data available as of the date of issuance, as are references to regulations and laws. It is given in good faith.
Users should be aware of potential risks if the product is used for purpose other than those for which it is intended.
The user is responsible for observing the regulations governing the usage of such products, and for observing appropriate precautions in usage, handling, and storage.
The laws and regulations cited in this document should not be considered an exhaustive listing ; they are mentioned to assist users in the proper usage of this product, but it remains the responsability of users to observe all laws and regulations governing its usage.

End of the document: contains 7 pages.

NPDES PERMIT RATING WORK SHEET

[ ] Regular Addition
[ ] Discretionary Addition
[X] Score change, but no status Change
[ ] Deletion

VPDES NO. : VA0032000

Facility Name: Pentagon Reservation
City / County: Arlington
Receiving Water: Roaches Run
Reach Number:

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power Plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

[ ] Yes; score is 600 (stop here) [X] NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: | Primary Sic Code: 4961 | Other Sic Codes: 9711

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[X] No process waste streams	0	0	[ ] 3.	3	15	[ ] 7.	7	35
[ ] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: 0

Total Points Factor 1: 0

FACTOR 2: Flow/Stream Flow Volume

(Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)			Code	Points
Type I:	Flow < 5 MGD	[ ]	11	0
	Flow 5 to 10 MGD	[ ]	12	10
	Flow > 10 to 50 MGD	[X]	13	20
	Flow > 50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[ ]	21	10
	Flow 1 to 5 MGD	[ ]	22	20
	Flow > 5 to 10 MGD	[ ]	23	30
	Flow > 10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1 to 5 MGD	[ ]	32	10
	Flow > 5 to 10 MGD	[ ]	33	20
	Flow > 10 MGD	[ ]	34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50%	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to < 50 %	[ ]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: 13

Total Points Factor 2: 20

Attachment 3

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)		Code	Points
☐	< 100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	> 1000 to 3000 lbs/day	3	15
☐	> 3000 lbs/day	4	20

Code Number Checked: N/A

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)		Code	Points
☐	< 100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	> 1000 to 5000 lbs/day	3	15
☐	> 5000 lbs/day	4	20

Code Number Checked: N/A

Points Scored: 0

C. Nitrogen Pollutants: (check one) ☐ Ammonia ☐ Other: _____

Permit Limits: (check one)	*Nitrogen Equivalent*	Code	Points
X	< 300 lbs/day	1	0
☐	300 to 1000 lbs/day	2	5
☐	> 1000 to 3000 lbs/day	3	15
☐	> 3000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☐ YES; (If yes, check toxicity potential number below)

☒ NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1.
(Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	☐ 7.	7	15
☒ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked: 1

Total Points Factor 4: 0

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines or technology-based state effluent guidelines) or has a wasteload allocation been given to the discharge?*

		Code	Points
[X]	YES	1	10
[ ]	NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
[ ]	YES	1	0
[X]	NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
[X]	YES	1	10
[ ]	NO	2	0

Code Number Checked: A 1 B 2 C 1

Points Factor 5: A 10 + B 5 + C 10 = **25**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from factor 2) 22

Check appropriate facility HPRI code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[ ]	2	2	0
[X]	3	3	30
[ ]	4	4	0
[ ]	5	5	20

Enter the multiplication factor that corresponds to the flow code: 0.3

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 3

Base Score (HPRI Score): 30 X (Multiplication Factor) 0.1 = 3

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
[X]	1	10
[ ]	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)?

	Code	Points
[ ]	1	10
[X]	2	0

Code Number Checked: A 3 B 1 C 2

Points Factor 6: A 3 + B 10 + C 0 = **13**

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	0
2	Flows / Streamflow Volume	20
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	25
6	Proximity to Near Coastal Waters	13
	TOTAL (Factors 1 through 6)	66

S1. Is the total score equal to or grater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE : 66

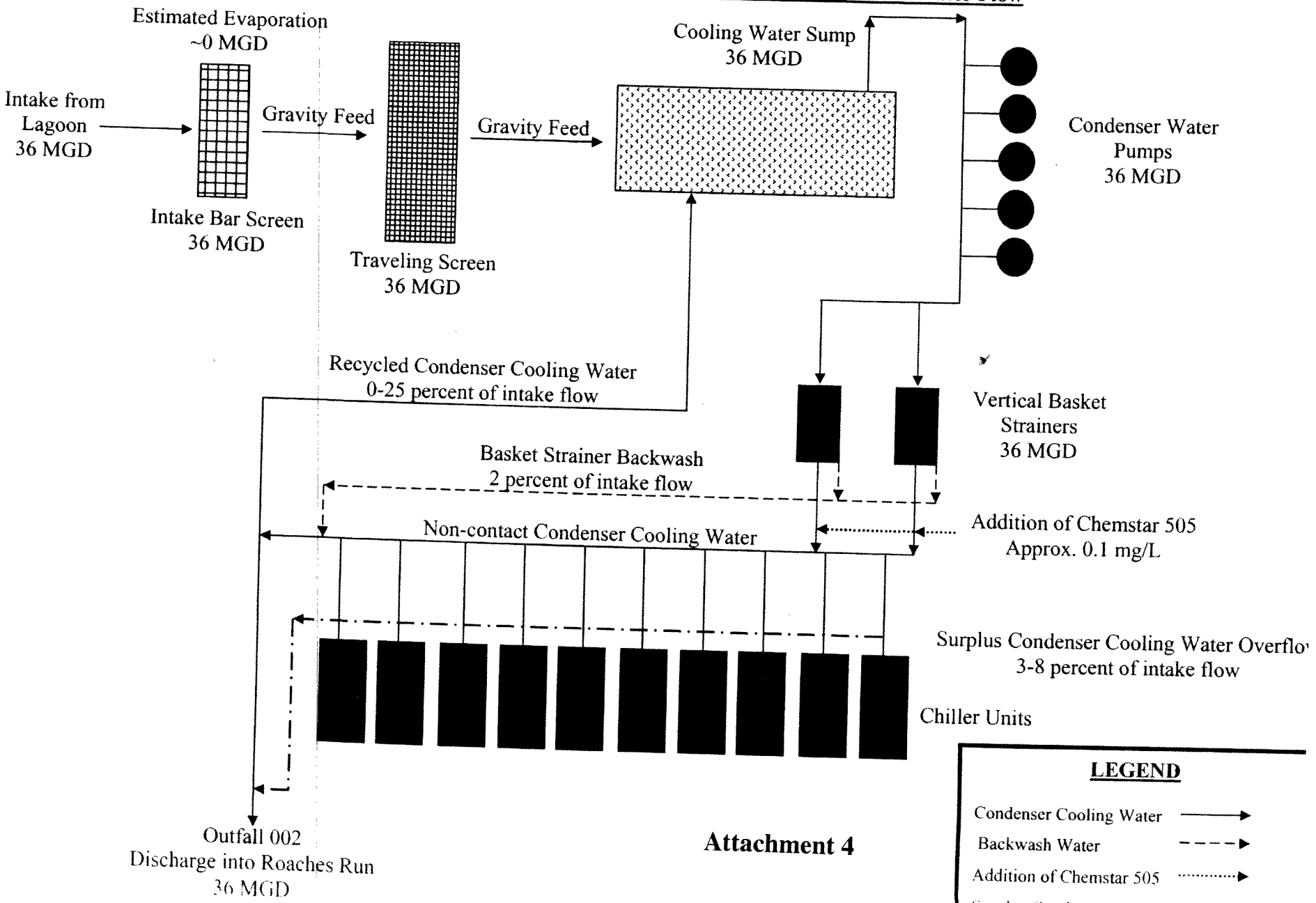
OLD SCORE : 74.5

Permit Reviewer's Name : Anna Westernik

Phone Number: 703-583-3837

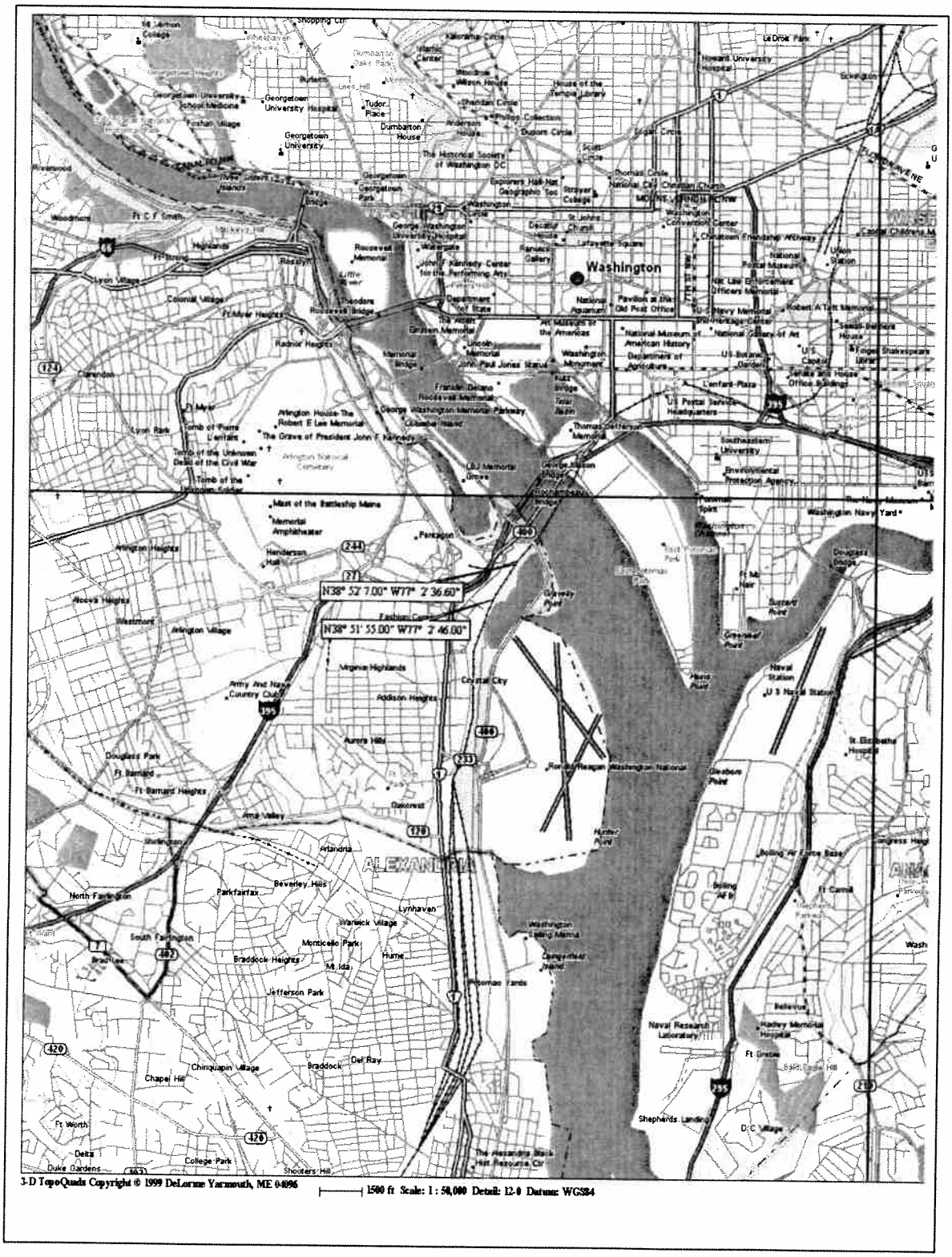
Date: June 22, 2010

Line Drawing of Pentagon Heating and Refrigeration Plant (HRP) Condenser Water Flow



Attachment 4

Outfalls 001 and 002 Pentagon Reservation (VA0032000)



Attachment 5

Water Body -- VAN-A12E

Permit No	Facility Name	Location Address	Receiving Stream
Individual Permits			
VA0032000	US Department of Defense - Pentagon	425 Old Jefferson Davis Hwy	Roaches Run
VA0025143	Arlington County Water Pollution Control F	3401 S Glebe Rd	Four Mile Run
VA0087068	Alexandria Combined Sewer System	Various locations in the City of Alexandria	Oronoco Bay

Water Body -- VAN-A12R

Permit No	Facility Name	Location Address	Receiving Stream
Individual Permits			
VA0089796	The Nature Conservancy	4245 N Fairfax Dr	Lubber Run (stormsewer)
General Permits			
VAG110087	Virginia Concrete Company Inc - Shirlington		
VAG110282	Dulles Metrorail Batch Plant		

CHEMICALS PURCHASED AT PENTAGON HEATING PLANT (2007)

BOILER WATER TREATMENT
FEBRUARY 28,2007 TOTAL AMOUNT: $25327.94

1.CHEMSTAR # 634----------10/55/GL/DRUMS
2.CHEMSTAR # 305----------5/55/GL/DRUMS
3.CHEMSTAR # 420----------4/400/LB/DRUMS
4.CHEMSTAR # 276----------9/55/GL/DRUMS

APRIL 18,2007 TOTAL AMOUNT: $20756.44

1.CHEMSTAR # 276----------5/55/GL/DRUMS
2.CHEMSTAR #634----------18/55/GL/DRUMS

COPPER INHIBITOR
JUNE 6,2007 TOTAL AMOUNT: $74040.00

1.CHEMSTAR # 505----------4000/GL

JULY 14,2007 TOTAL AMOUNT: $77720.00

1.CHEMSTAR # 505----------4000/GL

AUGUST 7,2007 TOTAL AMOUNT:$74040.00

1.CHEMSTAR #505----------4000/GL

BOILER WATER TREATMENT
AUGUST 31,2007 TOTAL AMOUNT:$35180.34

1.CHEMSTAR # 305----------9/55/GL/DRUMS
2.CHEMSTAR # 634----------14/55/GL/DRUMS
3.CHEMSTAR # 276----------10/55/GL/DRUMS

BOILER WATER SOFTNER
JANUARY 16,2007 TOTAL AMOUNT:$2186.69
1.BULK INDUSTRIAL SOLAR SALT---------22.52/TN

DECEMBER 1,2007 TOTAL AMOUNT:$1801.21
1.BULK INDUSTRIAL SOLAR SALT--------18.550/TN

JACKIE SEEGARS: 4/2/2009

Attachment 7

Gittman, Rachel CTR WHS/DFD/ERG

From: Susarla, Sridhar CIV WHS/DFD
Sent: Monday, April 06, 2009 7:06 AM
To: Gittman, Rachel CTR WHS/DFD/ERG
Subject: FW: Water Treatment Chemicals
Signed By: sridhar.susarla@whs.mil

-----Original Message-----
From: Bhatti, Gurdarshan CIV WHS/DFD
Sent: Wednesday, April 01, 2009 1:07 PM
To: Susarla, Sridhar CIV WHS/DFD
Subject: FW: Water Treatment Chemicals

fyi

-----Original Message-----
From: Seegars, Jacquelyn CIV WHS/DFD
Sent: Wednesday, March 11, 2009 11:38 AM
To: Eichenlaub, Joseph CIV WHS/DFD
Cc: Bhatti, Gurdarshan CIV WHS/DFD; Amaro-Perez, Leonardo CIV WHS/DFD
Subject: Water Treatment Chemicals

Hello Joe, These are the Chemicals I've purchased from December 2008, until February 2009

1.CHEMSTAR #305--------7 /55/GAL /DRUMS

2.CHEMSTAR #276--------9 /55/GAL/DRUMS

3.CHEMSTAR #420--------4 /100/LB/DRUMS

4.COPPER INHIBITOR #505------4000 /GAL

5.BULK INDUSTRIAL SOLAR SALT-------18 /TONS

THANKS,

JACKIE SEEGARS

CHEMICALS PURCHASED AT PENTAGON HEATING PLANT (2008)

BOILER WATER TREATMENT
MARCH 25,2008 TOTAL AMOUNT:$24704.91

1.CHEMSTAR # 305----------9/55/GL/DRUMS
2.CHEMSTAR # 276----------5/55/GL/DRUMS
3.CHEMSTAR #634----------9/55/GL DRUMS

JULY 14,2008 TOTAL AMOUNT:$514.38
1.CHEMSTAR # 420----------3/100/LB DRUMS

COPPER INHIBITOR
JULY 14,2008 TOTAL AMOUNT:$77720.00
1.CHEMSTAR #505----------4000/GL

BOILER WATER TREATMENT
AUGUST 4,2008 TOTAL AMOUNT:$18583.60
1.CHEMSTAR # 634----------20/55/GL/DRUMS

NOVEMBER 10,2008 TOTAL AMOUNT:$19670.79
1.CHEMSTAR #305----------7/55/GL/DDRUMS
2.CHEMSTAR #276----------9/55/GL/DRUMS

DECEMBER10,2008 TOTAL AMOUNT:$640.12
1.CHEMSTAR #420----------4/100/LB/DRUMS

COPPER INHIBITOR
DECEMBER 22,2008 TOTAL AMOUNT:$84240.00
1.CHEMSTAR # 505----------4000/GL

BOILER WATER SOFTNER
FEBRUARY 13,2008 TOTAL AMOUNT:$1872.08
1.BULK INDUSTRIAL SOLAR SALT----------19.280/TN

JUNE 4,2008 TOTAL AMOUNT:$1704.62
1.BULK INDUSTRIAL SOLAR SALT----------16.320/TN

JULY 10,2008 TOTAL AMOUNT:$1913.52
1.BULK INDUSTRIAL SOLAR SALT----------18.320/TN

NOVEMBER 4,2008 TOTAL AMOUNT:$1977.24
1.BULK INDUSTRIAL SOLAR SALT----------18.93/TN

JACKIE SEEGARS: 4/2/2009

PAINT SHOP INVENTORY FY/09 MARCH I

TYPE	IN	0UT	ON HAND	USE FOR YEAR
LATEX PAINT			1036 GALLON	**513**
OIL BASED (ALCLYD) PAINT			24 GALLON	**60**
LAQUER			28 GALLON	**73**
LAQUER THINNER			20 GALLON	**10**
OTHER THINNER (NAPTHA)			6 GALLON	**0**
EPOXY			57 GALLON	**6**
MINERAL SPIRITS			17 GALLON	**5**
ACRYLIC SPRAY			348 CAN	**34**
STAINS			29 GALLON	**23**
DENATURED ALCOHOL			10 GALLON	**0**
AUTO BODY FILLER			10 GALLON	**0**
ACRYLIC ENAMEL			8 GALLON	**2**
CONTACT ADHESIVE			6 GALLON	**7**

Summary of Inspection 8/13/09

VPDES NO. **VA0032000**

Problems identified at last inspection (4/22/04):	Corrected	Not Corrected
1. pH meter thermometer not NIST verified	[ ]	[**X**]

SUMMARY

Comments:

The facility knew the inspection was going to occur prior to the date of the inspection. DEQ staff could not access the Intake Building because a key was not available and the procedures for pH could not be verified because the meter and its associated documentation was not available at the time of inspection.

Recommendations for action:

1. **The facility staff needs to update their Operations and Maintenance (O&M Manual) as it is not up-to-date (see comments later in the report).**
2. **The facility staff needs to review the attached check sheet for pH. Any facility completing analysis for data that is reported under the VPDES permit must follow all approved and applicable requirements for analysis in the Code of Federal Regulation, Title 40, Part 136.**
3. **The facility should review their internal procedures for when a compliance inspection is scheduled (in advance) to make sure all required items would be available at the time of inspection.**

To: Anna Westernik
From: Jennifer O'Reilly

Date: June 7, 2010
Subject: Planning Statement for the Pentagon
Permit No: VA0032000

Discharge Type: Industrial
Discharge Flow: 84 MGD 30-Avg. Maximum

Receiving Stream: Roaches Run
Latitude / Longitude: Outfall 001 - 38°51'55" / 77°2'46"
Outfall 002 - 38°52'07" / 77°2'37"
Waterbody ID: A12/PL24
Water Quality Standards: Section 6, Class II, Sp. Std. b, y

1. Is there monitoring data for the receiving stream?

   There is no monitoring data for Roaches Run.

   - If yes, please attach latest summary.
   - If no, where is the nearest downstream monitoring station.

   Roaches Run drains into the tidal freshwater Potomac River. DEQ does not conduct ambient monitoring on the Potomac River, as this portion of the river falls under the jurisdiction of the District of Columbia. The following information is found in The District of Columbia Water Quality Assessment 2008 Integrated Report. Roaches Run discharges into segment DCPMS00E_02 of the Potomac River, which extends from the Key Bridge (Georgetown) to Hains Point. This Middle Potomac River (segment 2) is listed overall as not supporting.

2. Is the receiving stream on the current 303(d) list? No.

   - If yes, what is the impairment? N/A

   - Has the TMDL been prepared? N/A

   - If yes, what is the WLA for the discharge? N/A

   - If no, what is the schedule for the TMDL? N/A

3. If the answer to (2) above is no, is there a downstream 303(d) listed impairment? Yes.

   - If yes, what is the impairment?

The Middle Potomac River (segment 2) is listed in the District of Columbia's 2008 Integrated Report as not supporting several uses:

1. The primary contract recreation use is not supporting due to exceedances of the fecal coliform bacteria criterion.

2. The fish consumption use is not supporting due to a public health advisory, urging the non-consumption of catfish, carp and eel, and a limited consumption of other fish caught in all District of Columbia waters due to PCBs.

3. The aquatic life use is not supporting due to exceedances of the pH criterion.

- Has a TMDL been prepared?

1. Recreation Use: Bacteria - TMDL established December 2004

2. Fish Consumption Use: Organics (PCBs) – TMDL established October 2007

3. Aquatic Life Use: pH – TMDL expected establishment date: May 2011

- Will the TMDL include the receiving stream?

Roaches Run was not specifically included in the completed TMDLs.

- Is there a WLA for the discharge?

VA003200 was not given a WLA in either of the established TMDLs.

- What is the schedule for the TMDL?

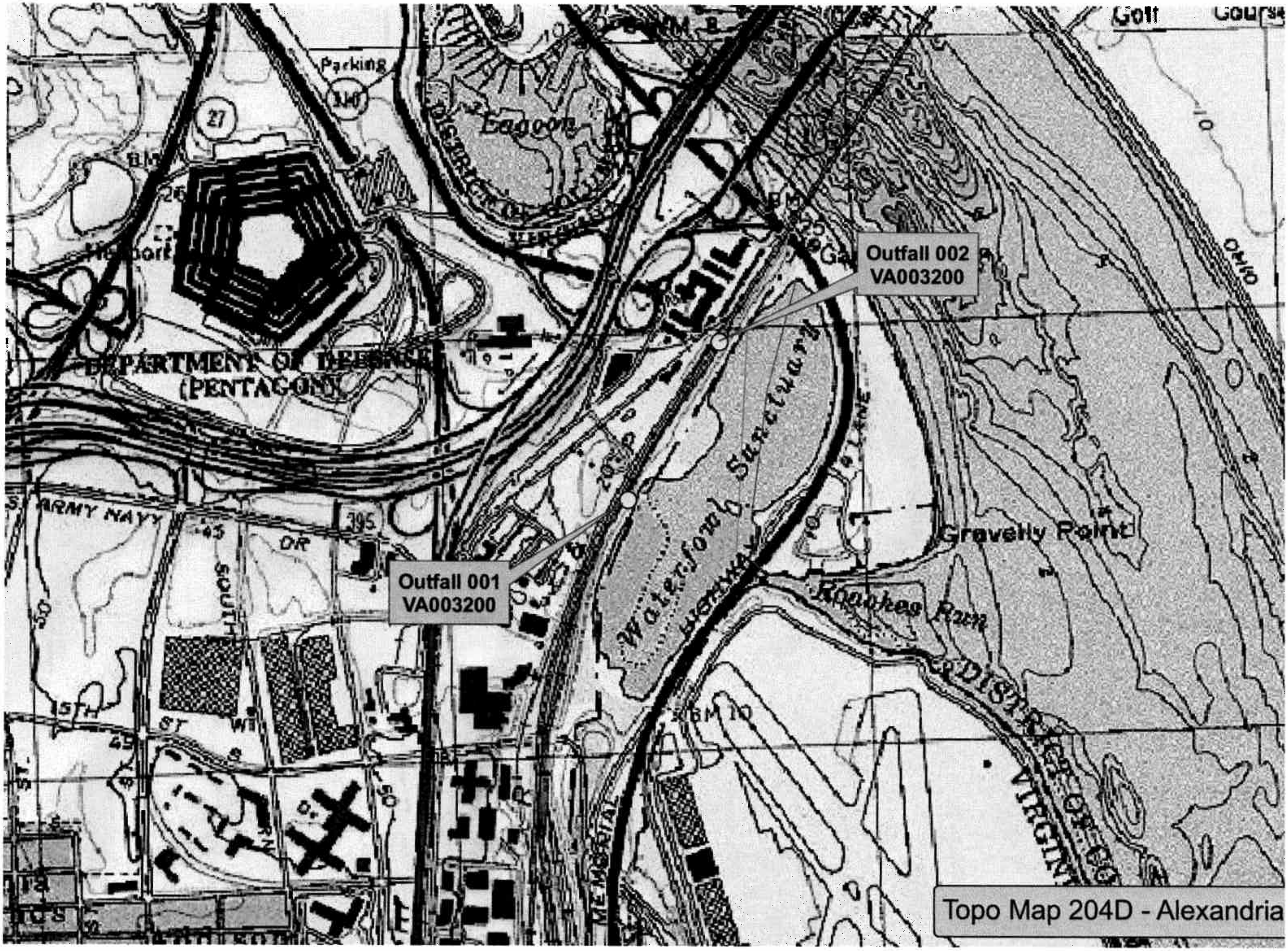
The pH TMDL is scheduled to be completed by May 2011.

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

In support of the Potomac River PCB TMDL that was developed, this facility is a candidate for low-level PCB monitoring, based on its Standard Industrial Classification (SIC) code. Low-level PCB analysis uses EPA Method 1668B, which is capable of detecting low-level concentrations for all 209 PCB congeners. The Assessment/TMDL Staff has concluded that this facility is not expected to discharge PCBs, as water is drawn in for use as non-contact cooling and is then discharged. This facility will not be required to perform low-level PCB monitoring during the upcoming permit cycle.

5. Could you please calculate the drainage area at the outfall?

The drainage area at Outfall 001 is 0.53 mi^2.
The drainage area at Outfall 002 is 0.02 mi^2.



Outfall 002
VA003200
Outfall 001
VA003200
Topo Map 204D - Alexandria
DEPARTMENT OF DEFENSE
(PENTAGON)
Lagoon
Parking
Waterfowl Sanctuary
Gravelly Point
Roaches Run
ARMY NAVY
DR
SOUTH
15TH
ST
MEMORIAL
HIGHWAY
LANE
VIRGINIA
Golf
Course

Dissolved Oxygen Criteria (9 VAC 25-260-185)

Designated Use	Criteria Concentration/Duration	Temporal Application
Migratory fish spawning and nursery	7-day mean > 6 mg/L (tidal habitats with 0-0.5 ppt salinity)	February 1 – May 31
	Instantaneous minimum > 5 mg/L	
Open-water[1,2]	30-day mean > 5.5 mg/L (tidal habitats with 0-0.5 ppt salinity) 30-day mean > 5 mg/L (tidal habitats with >0.5 ppt salinity)	Year-round
	7-day mean > 4 mg/L	
	Instantaneous minimum > 3.2 mg/L at temperatures < 29°C Instantaneous minimum > 4.3 mg/L at temperatures > 29°C	
Deep-water	30-day mean >3 mg/L	June 1-September 30
	1-day mean > 2.3 mg/L	
	Instantaneous minimum > 1.7 mg/L	
Deep-channel	Instantaneous minimum > 1 mg/L	June 1-September 30

[1]See subsection aa of 9 VAC 25-260-310 for site specific seasonal open-water dissolved oxygen criteria applicable to the tidal Mattaponi and Pamunkey Rivers and their tidal tributaries.

[2]In applying this open-water instantaneous criterion to the Chesapeake Bay and its tidal tributaries where the existing water quality for dissolved oxygen exceeds an instantaneous minimum of 3.2 mg/L, that higher water quality for dissolved oxygen shall be provided antidegradation protection in accordance with section 30 subsection A.2 of the Water Quality Standards.

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Pentagon Reservation Permit No.: VA0032000

Receiving Stream: Roaches Run Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =		mg/L
90% Temperature (Annual) =		deg C
90% Temperature (Wet season) =		deg C
90% Maximum pH =		SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	0	MGD
7Q10 (Annual) =	0	MGD
30Q10 (Annual) =	0	MGD
1Q10 (Wet season) =	0	MGD
30Q10 (Wet season)	0	MGD
30Q5 =	0	MGD
Harmonic Mean =	0	MGD

Mixing Information

Annual - 1Q10 Mix =	100	%
- 7Q10 Mix =	100	%
- 30Q10 Mix =	100	%
Wet Season - 1Q10 Mix =	100	%
- 30Q10 Mix =	100	%

Effluent Information

Mean Hardness (as CaCO3) =	110	mg/L
90% Temp (Annual) =		deg C
90% Temp (Wet season) =		deg C
90% Maximum pH =		SU
10% Maximum pH =		SU
Discharge Flow =	38	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	5.84E+01	7.09E+00	na	--	5.8E+01	7.1E+00	na	--	--	--	--	--	--	--	--	--	5.8E+01	7.1E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	5.84E+01	7.09E+00	na	--	5.8E+01	7.1E+00	na	--	--	--	--	--	--	--	--	--	5.8E+01	7.1E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether[C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate[C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	4.4E+00	1.2E+00	na	--	4.4E+00	1.2E+00	na	--	--	--	--	--	--	--	--	--	4.4E+00	1.2E+00	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	**1.9E+01**	**1.1E+01**	**na**	**--**
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+03**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	6.2E+02	8.0E+01	na	--	6.2E+02	8.0E+01	na	--	--	--	--	--	--	--	--	--	6.2E+02	8.0E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene[C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	1.5E+01	9.7E+00	na	--	1.5E+01	9.7E+00	na	--	--	--	--	--	--	--	--	--	1.5E+01	9.7E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD[C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE[C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT[C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene[C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane[C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane[C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene[C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin[C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene[C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E-01**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	7.9E-04
Heptachlor Epoxide [C]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	3.9E-04
Hexachlorobenzene [C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene [C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	9.5E-01	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane [C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone [C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	1.3E+02	1.5E+01	na	--	1.3E+02	1.5E+01	na	--	--	--	--	--	--	--	--	--	1.3E+02	1.5E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Nickel	0	2.0E+02	2.2E+01	na	4.6E+03	2.0E+02	2.2E+01	na	4.6E+03	--	--	--	--	--	--	--	--	2.0E+02	2.2E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine [C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine [C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine [C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	2.8E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB Total [C]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04
Pentachlorophenol [C]	0	7.7E-03	5.9E-03	na	3.0E+01	7.7E-03	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	7.7E-03	5.9E-03	na	3.0E+01
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	4.0E+00

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+03**
Silver	0	4.1E+00	--	na	--	4.1E+00	--	na	--	--	--	--	--	--	--	--	--	**4.1E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+01**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+01**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-01**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+03**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene[C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-03**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+01**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+02**
Trichloroethylene[C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+02**
2,4,6-Trichlorophenol[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+01**
Zinc	0	1.3E+02	1.3E+02	na	2.6E+04	1.3E+02	1.3E+02	na	2.6E+04	--	--	--	--	--	--	--	--	**1.3E+02**	**1.3E+02**	**na**	**2.6E+04**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	7.3E-01
Chromium III	4.8E+01
Chromium VI	6.4E+00
Copper	5.8E+00
Iron	na
Lead	9.2E+00
Manganese	na
Mercury	4.6E-01
Nickel	1.3E+01
Selenium	3.0E+00
Silver	1.6E+00
Zinc	5.1E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

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Facility = Pentagon
Chemical = Copper
Chronic averaging period = 4
WLAa = 30
WLAc = 19.4
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 55
Expected Value = 7.96950
Variance = 77.7183
C.V. = 1.106191
97th percentile daily values = 29.9223
97th percentile 4 day average = 17.2253
97th percentile 30 day average= 10.7878
< Q.L. = 17
Model used = delta lognormal

No Limit is required for this material

The data are:

25
1.8
2.9
9.6
9.2
11
5
3.7
14
3.7
3.8
13
20
9.1
25
13
14
7.2
0
0
4.3
20
5

Attachment 12

12
19.3
8.19
7.48
5.22
0
0
0
0
0
0
5.38
0
6
5.04
6.77
0
0
0
0
5.14
0
0
0
0
11
28
3
9.1
8
27.8
27.8

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Facility = Pentagon
Chemical = Lead (Using D.C. Criterion)
Chronic averaging period = 4
WLAa = 140
WLAc = 5.6
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 4
Expected Value = .802296
Variance = .231724
C.V. = 0.6
97th percentile daily values = 1.95232
97th percentile 4 day average = 1.33485
97th percentile 30 day average= .967612
< Q.L. = 3
Model used = BPJ Assumptions, Type 1 data

No Limit is required for this material

The data are:

25
0
0
0

9/10/2010 4:08:21 PM

Facility = Pentagon
Chemical = Nickel
Chronic averaging period = 4
WLAa = 400
WLAc = 44
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 1.8
Variance = 1.1664
C.V. = 0.6
97th percentile daily values = 4.38015
97th percentile 4 day average = 2.99482
97th percentile 30 day average= 2.17089
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

1.8

9/10/2010 4:09:40 PM

Facility = Pentagon
Chemical = Zinc
Chronic averaging period = 4
WLAa = 260
WLAc = 260
Q.L. = 20
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 25
Variance = 225
C.V. = 0.6
97th percentile daily values = 60.8354
97th percentile 4 day average = 41.5947
97th percentile 30 day average= 30.1513
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

25

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Northern Regional Office
13901 Crown Court **Woodbridge, VA 22193** **(703) 583-3800**

SUBJECT:	TOXICS MANAGEMENT PROGRAM DATA REVIEW Pentagon Reservation (VA0032000)
REVIEWER:	Douglas Frasier
DATE:	4 November 2009
COPIES:	TMP file

PREVIOUS REVIEW: 2 July 2009

DATA REVIEWED:

This review covers the third annual chronic toxicity tests for Outfall 002 that were conducted in September 2009.

DISCUSSION:

The results of toxicity tests for Outfalls 001 and 002 are summarized in Tables 1 and 2; respectively, along with the results of all previous toxicity tests conducted for each outfall.

The test results yielded a No Observed Effect Concentration (NOEC) of 100 % effluent for *C. dubia* and *P. promelas*; equivalent to a TU_c of 1.

The permit states that compliance determination is based on a Chronic NOEC of 100%; equivalent to a TU_c of 1.0. The facility did not exceed the permit requirements.

RECOMMENDATION:

The permittee has accepted the previous recommendation of using UV disinfection for the *P. promelas* species due to the possible presence of fish pathogen.

Attachment 13

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated industrial wastewater into a water body in Arlington County, Virginia.

PUBLIC COMMENT PERIOD: October 15, 2010 to 5:00 p.m. on November 15, 2010

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Department of Defense, 425 Old Jefferson Davis Highway, Arlington VA 22202; VA0032000

NAME AND ADDRESS OF FACILITY: The Pentagon Reservation, 425 Old Jefferson Davis Highway, Arlington, VA 22202

PROJECT DESCRIPTION: The Department of Defense has applied for a reissuance of a permit for the federally owned Pentagon Reservation. The applicant proposes to release treated industrial cooling wastewater at a maximum rate of 38 million gallons per day into a water body. The facility proposes to release the treated industrial wastewater into Roaches Run in Arlington County in the Potomac River/Fourmile Run/Pimmit Run watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, Temperature, and Total Recoverable Copper, . The facility will monitor for chronic toxicity, dioxin, and total nitrogen.

DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requestor, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.
Name: Anna Westernik
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3837 E-mail: anna.westernik@deq.virginia.gov Fax: (703) 583-3821

Attachment 14

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3821
www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

December 10, 2010

Mr. B.H. Custer
5032 Belt Road
Washington, D.C. 20016

Re: Request for Public Hearing, Reissuance of VPDES Permit No. VA0032000
The Pentagon Reservation, Arlington County

Dear Mr. Custer:

After review of all pertinent information regarding the reissuance of VPDES Permit No. VA0032000, the Department of Environmental Quality has determined that the statutory threshold for convening a public hearing for the proposed permit reissuance has not been met. This decision was based on an analysis of the comments received and responses provided by DEQ.

The analysis consisted of comparing the comments received to criteria described at Section 62.1-44.15:02.C. of the State Water Control Law to determine if a public hearing was warranted. The analysis is provided in the enclosed staff memo.

DEQ believes public participation is essential to the development of permits issued under its authority. In spite of the decision to not convene a public hearing, your comments and concerns expressed during the public notice period were given careful consideration.

If you want to review the permit files or if you have any questions regarding the permit, please feel free to contact me at (703) 583-3837 or by e-mail at anna.westernik@deq.virginia.gov.

Sincerely,

A. Westernik

Anna T. Westernik
Environmental Specialist II

Enclosure

cc: VA0032000 Permit Reissuance File

Attachment 15

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY

NORTHERN REGIONAL OFFICE

13901 Crown Court Woodbridge, VA 22193

SUBJECT: Response to Public Comments, Pentagon Reservation, VPDES Permit No. VA0032000
TO: Thomas A. Faha, Regional Director

FROM: Bryant H. Thomas, Water Permits Manager

DATE: December 10, 2010

COPIES: VPDES Permit No. VA0032000 -- 2010 Reissuance File

Proposed Permit Action: Reissuance of VPDES Permit No. VA0032000

Facility: Pentagon Reservation

Permittee: Department of Defense

Background: The Department of Defense is authorized to discharge at a maximum rate of 38 MGD from the Pentagon Reservation by VPDES Permit No. VA0032000. The treated effluent discharges into Roaches Run in Arlington County, Virginia. A brief summary of the process is described below:

Water is drawn from the Boundary Channel Lagoon (District of Columbia waters) to be used as non-contact cooling water for the chiller condensers and is then discharged without treatment into Roaches Run, a wildlife sanctuary near the Ronald Reagan National Airport. An intake bar screen, a traveling screen, a cooling water sump, condenser water pumps, ten basket screens, and ten chillers are used in this process.

Water withdrawn from the lagoon travels through a 72" line by gravity through traveling screens with 3/8" mesh that remove smaller debris and to two sumps that normally operate in parallel. The sump chambers are 44' deep. Ten vertical turbine pumps that discharge at a rate of 11,000 to 12,000 gpm pull the water from the sumps and discharge it through ten strainers with 1/42" mesh located after the pumps. Pump use is normally alternated, but the pumps can operate together if demand requires so. These strainers remove fine particles such as sand and silt. These strainers are backwashed through the piping in the basement and into the outfall at Roaches Run. They are backwashed automatically using pressure differential. The rate of backwash is unknown.

A 36" main is located under the floor of the chiller room and leads to the chillers. Each chiller unit consists of a condenser and a cooler. To achieve cooling, water travels through the bottom of the condenser units where heat is exchanged and then it loops through the top of the condenser and is discharged to the piping below the chiller unit. The water then travels through copper tubes within the condenser. It has no contact with the other materials in the cooler units. Mexal 432/0, an anti-corrosion dispersant containing amines, is added to the non-contact cooling water to mitigate the copper level in the discharge. Each chiller can be individually sampled in the basement area.

The total recoverable copper limit is based on Virginia and Washington D.C. Water Quality Standards, the pH limits are based on Washington D.C. Water Quality Standards, and the temperature limit is based on best professional judgment.

PN Publication: The public notice for this proposed permit action was published in the D.C. Examiner on October 14 and October 28, 2010. The 30-day public notice period was October 15 through November 15, 2010. The DEQ Mailing List dated October 18, 2010 listing all proposed actions for VPDES Permit and State Discharge Certificates to state waters contained this public notice in accordance with the U. S. Public Law 92-500 as amended and Sections 62.1-44.2 *et. seq.* of the Code of Virginia as amended. Written notifications were also provided to the Chairman of

the Arlington Board, the Arlington County Administrator, and the Northern Virginia Regional Commission on October 13, 2010.

Summary of PN Responses: During the draft permit public comment period, the DEQ-NRO received public comments from one citizen via postal mail, e-mail, and fax on October 18, October 22, October 31, November 1, November 9, November 13, November 16, and November 18, 2010.

Areas of concern or comment dealt with the length of time the permit will be reissued for, the use of MEXAL 432/0, discharge to a waterfowl sanctuary, and the Pentagon's use for the cooling water.

Each concern or comment is discussed along with DEQ-NRO response below.

1. For what length of time will this permit be reissued and for what length of time was the previous permit reissued?

   DEQ Response: The previous permit and this permit will be reissued for a five-year period.

2. For the purposes of determining historic personal conflicts of interest, can you please identify the liability insurer of MEXEL S.A., Verberie, France and the law firm which represents it in the United States?

   DEQ Response: This question is not within the purview of this permit reissuance. DEQ-NRO recommends that you contact the Pentagon directly regarding this matter.

3. Are you familiar with the "Roaches Run Waterfowl Sanctuary" entry on the Virginia Department of Game and Inland Fisheries website? If not, I would suggest you consult same and compare it to the arrogance of the Pentagon's so-called "Master Plan Surely, then, DEQ is aware of how inappropriate and unseemly it be for the Virginia Department of Game and Inland Fisheries to currently list the site as a feature [contact (703) 289.2511] of its Virginia Birding and Wildlife Trail!

   DEQ Response: DEQ-NRO is aware that the wastewater from the Pentagon cooling water system discharges to Roaches Run. Roaches Run is listed as a site on the National Park Service George Washington Memorial Parkway. No restocking of fish or bird banding is conducted by the National Park Service at this site. The permit limits for wastewater discharge from the Pentagon cooling water system meet water quality standards and are thus protective of the receiving stream, Roaches Run.

4. What follows is a question, followed by a question mark. What percentage of the waste water involved in the Pentagon permit is attributable to keeping machines cool rather than people?

   DEQ Response: This question is not within the purview of this permit reissuance. DEQ-NRO recommends that you contact the Pentagon directly regarding this matter.

5. I represent a loose coalition comprised of mallard ducks [seen flying 12NOV10 over the contested waters], aquatic plants [photographed in the water 12NOV10 on the other side of the water from the Memorial Parkway], citizens who take pleasure in the view of Roaches Run Wildfowl Sanctuary [numerous buses and cars parked in the pull-out on 12NOV10], and the general aviation traffic at Reagan National Airport [the FAA recording only one bird-related aviation accident in the past ten years when one or more American white pelicans apparently brought down a Cessna 500 over Oklahoma City 4MAR08, NTSB/AAR-09/05]. The reason a public hearing is requested is the need to create a clear public record of just what the Pentagon intends to do with its 69,388,000,000 gallon (max.), five (5) year water treatment permit. My coalition has a common interest in not having Roaches Run Waterfowl Sanctuary poisoned by the use of Mexel 432/0, whose very own safety warnings advise against use in rivers & around aquatic organisms as "DANGEROUS FOR THE ENVIRONMENT". Revision of the Pentagon's admitted need to cool off its numerous employees and national security machines would surely come up with a less cataclysmic result. My position could not involve less

substantial or less disputed issues relevant to the application as set forth in Virginia DEQ documents provided to me.

DEQ Response: The average calculated 30-day maximum discharge value and the maximum 30-day discharge value for the November 2005 to March 2010 period are 38 and 83 million gallons per day (MGD), respectively. The wastewater from the Pentagon cooling water discharge will be released to Roaches Run.

Mexal 432/0 is being used to mitigate the copper level in the discharge. The Material Safety Data Sheet (MSDS) states that a 'release' of Mexel into a waterway would be toxic to aquatic life; however, if used as prescribed (5-7 ppm for approximately 30 minutes each day) it does not pose such toxicity and should be non-detectable in the effluent. Precautions for handling and storage of the product to ensure no spills enter surface waters will be addressed in the Spill Prevention Control and Countermeasure Plan and the Operations and Maintenance Manual for the facility.

Analysis of PN Responses: Section 62.1-44.15:02.C. of the State Water Control Law requires convening a public hearing if the Director finds the following:

1. That there is a significant public interest in the issuance, denial, modification, or revocation of the permit in question as evidenced by receipt of a minimum of 25 individual requests for a public hearing or Board consideration;

2. That the requesters raise substantial, disputed issues relevant to the issuance, denial, modification, or revocation of the permit in question; and

3. That the action requested is not on its face inconsistent with, or in violation of, the State Water Control Law (§ 62.1-44.2 et seq.), federal law or any regulation promulgated thereunder.

Since there were less than 25 requests for a public hearing, the first criterion was not met.

With regard to the second criterion, the concerns expressed regarding the appropriate use of Mexal 432/0 and the protection of Roaches Run have been addressed through the draft VPDES permit reissuance.

With regard to the third criterion, the draft VPDES Permit is written in accordance with the State Water Control Law, the VPDES Permit Regulation, and the VPDES Permit Manual. No comments received challenged the legal basis for the proposed permit action.

On the basis of this analysis, the statutory threshold for convening a public hearing for the proposed permit reissuance has not been met.

Approved: Thomas A. Faha

Regional Director, Northern Regional Office

12-10-10

Date

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: The Pentagon Reservation
NPDES Permit Number: VA0032000
Permit Writer Name: Anna Westernik
Date: September 13, 2010

Major [ ] **Minor** [X] **Industrial** [x] **Municipal** [ ]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	x		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	x		
3. Copy of Public Notice?	x		
4. Complete Fact Sheet?	x		
5. A Priority Pollutant Screening to determine parameters of concern?	x		
6. A Reasonable Potential analysis showing calculated WQBELs?	x		
7. Dissolved Oxygen calculations?		x	
8. Whole Effluent Toxicity Test summary and analysis?	x		
9. Permit Rating Sheet for new or modified industrial facilities?	x		

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		x	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	x		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	x		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		x	
5. Has there been any change in streamflow characteristics since the last permit was developed?		x	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		x	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	x		
8. Does the facility discharge to a 303(d) listed water?*		x	
a. Has a TMDL been developed and approved by EPA for the impaired water?*			x
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?*			x
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?**	x		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		x	
10. Does the permit authorize discharges of storm water?		x	

*Discharge to impaired waters in the District of Columbia. Bacteria TMDL established December 2004; PCB TMDL established October 2007; pH TMDL expected to be established May 2011.
**Monitoring for pH.

Attachment 16

I.B. Permit/Facility Characteristics – cont.	**Yes**	**No**	**N/A**
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		x	
12. Are there any production-based, technology-based effluent limits in the permit?		x	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		x	
14. Are any WQBELs based on an interpretation of narrative criteria?		x	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		x	
16. Does the permit contain a compliance schedule for any limit or condition?		x	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		x	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	x		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		x	
20. Have previous permit, application, and fact sheet been examined?	x		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals

(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	**Yes**	**No**	**N/A**
1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	x		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	x		

II.B. Effluent Limits – General Elements	**Yes**	**No**	**N/A**
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	x		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	x		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	**Yes**	**No**	**N/A**
1. Is the facility subject to a national effluent limitations guideline (ELG)?		x	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			x
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?	x		
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?	x		
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?		x	
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?			x
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		x	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			x
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?			x
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?			x
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		x	

II.D. Water Quality-Based Effluent Limits	**Yes**	**No**	**N/A**
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	x		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?		x	
3. Does the fact sheet provide effluent characteristics for each outfall?	x		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	x		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	x		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	x		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	x		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?		x	
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	x		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	x		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	x		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	x		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	x		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	x		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	x		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?	x		

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		x	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			x
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			x
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?		x	

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	x		

List of Standard Conditions – 40 CFR 122.41

Duty to comply	Property rights	Reporting Requirements
Duty to reapply	Duty to provide information	Planned change
Need to halt or reduce activity not a defense	Inspections and entry	Anticipated noncompliance
Duty to mitigate	Monitoring and records	Transfers
Proper O & M	Signatory requirement	Monitoring reports
Permit actions	Bypass	Compliance schedules
	Upset	24-Hour reporting
		Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	x		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Anna T. Westernik
Title	Environmental Specialist II
Signature	A T Westernik
Date	September 13, 2010